KX3

Electronic Crossover

Congratulations! You have just purchased one of the latest products in signal processing technology to carry the famous KICKER name. Your KICKER KX3 is designed and built to give you years of trouble-free performance. This installation manual contains valuable information on how to get the most out of your new KX3 Electronic Crossover. Thanks for buying KICKER. Enjoy!

Features & Controls

Front High Frequency Output Jacks High passed at 18 dB/octave with infinitely variable frequencies of 35 to 8000 Hz.

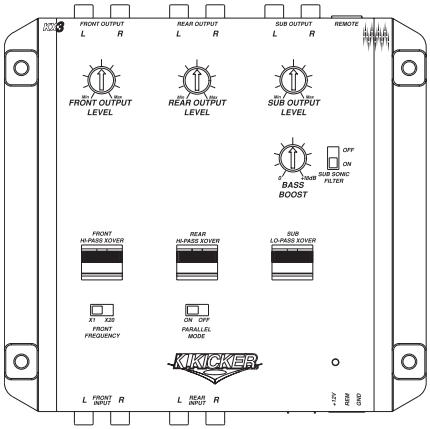
Rear High Frequency Output Jacks High passed at 18 dB/octave with infinitely variable frequencies of 35 to 400 Hz.

Frequency multiplier switch Increases the front HI-Pass frequency by 1x or 20x depending on the type of speakers being used. The switch determines the frequency. 1x (35Hz-400Hz) or set to 20x (700Hz-8000Hz)

Low Frequency Output Jacks Low passed at 18 dB/octave in a range of 45 to 250 Hz for use with low frequency amplifier(s).

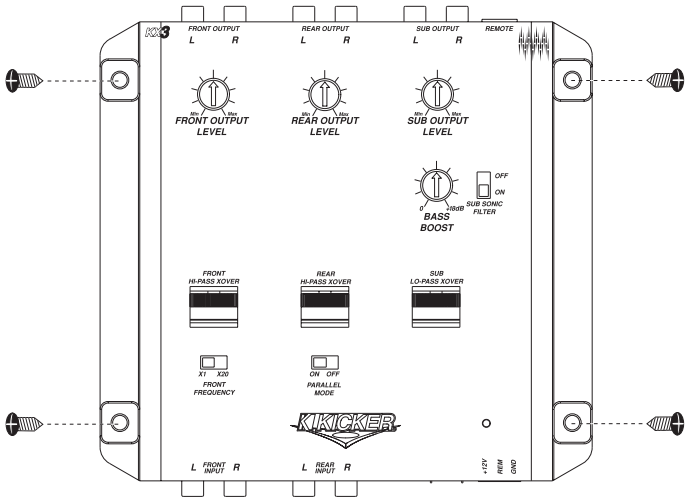
Subsonic Filter Set at 25Hz with a slope of 24dB/octave to increase power handling and help control subwoofer excursion.

Remote Bass Level Control Provides a convenient way to adjust the amount of bass to suit your taste without having to leave your seat.



Mounting Instructions

The KX3 crossover can be mounted in any convenient location in your vehicle that allows access to the controls and freedom from moisture. The flanges on the chassis have mounting holes which can be used as a template for the screw holes.



Wiring Instructions

The preferred method of bringing input signal into the KX3 crossover is with one or two sets of twisted pair RCA cables from a quality source unit.

If only one pair of RCA cables is used, the "Parallel" switch must be turned ON. If two pairs of RCA cables are used, the "Parallel" switch must be turned OFF.

Power for the KX3 should always come from a fused source. If you are using an aftermarket head unit it is convenient to tap into the sources constant power lead for main power and add to the remote output for turn on.

If you are using a source which does not have a remote turn on lead the KX3 can be turned on with a switched accessory lead. You can find this accessory power source in the factory harness at the back of the radio. It is the lead that turns on and off with the key.

To reduce the chance of noise entering the system, it is recommended that the RCA cables be run through the vehicle separate from any power wires.

Adjustments and Controls

After all the wiring connections are made and before the system is turned on for the first time you must make some basic adjustments. Start by turning the Front, Rear, and Sub Output Level controls most of the way down, counter-clockwise. Now turn the HI-Pass frequency controls all the way to the right and the LO-Pass frequency control all the way to the right. Also turn the gain controls on your amplifiers all the way down.

It is now time to power up the system. The green power LED should be lit. If not, refer to the troubleshooting section in this manual. Turn the head unit on and raise the volume until distortion is heard, then back the volume down slightly. This is the setting where the head unit puts out the maximum output without sounding bad. Due to the wide range on the level controls of the KX3 you may not be able to hear the music loud enough to tell distortion yet. If this is the case, raise all three Output Level controls to the halfway point (12 o'clock position) and try it again. Do not increase the gain settings on the amplifiers yet.

The music will sound incomplete right now because of the preliminary frequency settings. This is normal. If your head unit has no more than 2 volts of output, the KX3 Output Level controls will need to be turned all the way up to get enough signal to the amplifiers.

With the amplifier gains still at minimum and the head unit as high as it will go without distortion, raise the Front and Rear Output Level controls on the KX3 until distortion is heard and immediately turn it down slightly. This is the maximum setting that this gain control should ever be set to.

It is very important that the HI-Pass frequency control settings are set correctly before turning on the system for the first time. Setting the HI-Pass frequency and the gain on your high frequency amplifier will depend on the size of the amplifier and the power handling capability of your mid/high speakers. Remember that the power handling of a midrange speaker is directly related to the high pass frequency. It will handle more power at a higher high pass frequency and less power at a lower high pass frequency. If the midrange speaker ever pops or sounds bad it is a good indication that there is too much power going to it or that the HI-Pass frequency is set too low. Most 6 1/2" midranges will operate down to 80 or 100 Hz. A 5 1/4" or a 4" will usually work down to 100 to 150 Hz. Most 3 1/2 mids do not like to be operated below 300 Hz.

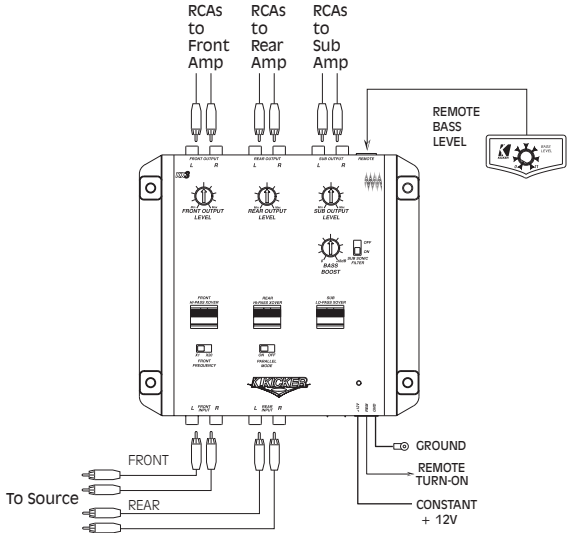
Continue on the LO-Pass frequency control and the low frequency amplifier gain. Normally the LO-Pass frequency will be the same as the HI-Pass Frequency. An exception will be when the midrange is too small to play down to a real low frequency and the subwoofer sounds bad trying to play up to meet the midrange. This may require a gap or difference between the high and low settings. Although not ideal, sometimes it is necessary to make the system work as good as possible.

With the LO-Pass Frequency set to match the HI-Pass or set for best sound quality it is time to adjust the output level. Turn the SUB Output level up until it matches the output of the mid/high amplifiers or until you hear distortion. If you begin to hear distortion, turn it down to the point where it sounds undistorted. Depending on the type of subwoofer used, you may want to turn up the Bass Boost Control. This feature can make a subwoofer put out more energy at very low frequencies. Be cautious with this control because with a lot of boost at low frequencies, the power handling of the sub will be decreased. *Remember: When the Remote Bass Level Control is plugged in to the KX3 the SUB Output Level Control on the crossover will not affect the output, only the Remote Bass Level Control will.*

Plug the Remote Level Control cable back into the KX3.

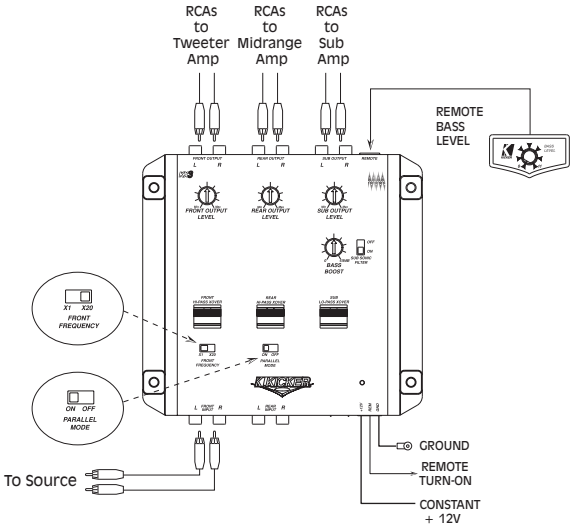
System Diagrams

System Diagram using the KX3
4 Channel Bi-Amp Configuration:



KX3 Crossover Settings
Front High Pass Crossover: 80-300Hz
Frequency Multiplier: x1
Rear High Pass Crossover: 80-300Hz
Subwoofer Crossover Frequency: 45-250Hz
Parallel Switch: Off
Note: Use of Remote Bass Level Control overrides the Sub Level Control on the KX3 Chassis.

System Diagram using the KX3
2 Channel Tri-Amp Configuration:



**If the tweeters used are supplied with passive crossovers which have protection circuits built in, keep these crossover in-line to maintain protection from burn out..*

Because a dedicated tweeter amplifier is being used this system the Frequency Multiplier switch must be set to 20x. If you are using passive crossovers on the tweeters, it is not necessary to set the switch to 20x.

KX3 Crossover Settings
Front High Pass Crossover: 80-300Hz
Frequency Multiplier: x20 (175x20=3500Hz, 225x20=4500Hz)
Rear High Pass Crossover: 80-300Hz
Parallel Switch: ON

Troubleshooting

Music is not loud enough with head unit turned up:
- -Output Level controls set incorrectly
- -Gain controls on amplifiers set incorrectly
  - See Adjustments and Controls section

Music gets loud and distorted with the head unit turned up part way:
- -Output Level controls set incorrectly
- -Gain controls on amplifiers set incorrectly
  - See Adjustments and Controls section

Midrange speakers pop with loud passages:
- -HI-Pass frequency control set too low
  - See Adjustments and Controls section
- -Too much power available at high frequency amplifier
  - Reduce gain setting on high frequency amplifier

One channel does not operate:
- -Check the head unit balance control first
  - If problem stays on the same side, proceed on
- -Swap left and right connections at head unit
  - If problem trades sides in the vehicle, then the head unit is defective
  - If problem stays on the same side, proceed on
- -Swap left and right connections at the input to the KX3
  - If problem trades sides in the vehicle, then the RCA cable is defective between the head unit and the KX3
  - If problem stays on the same side, proceed on
- -Swap left and right High Pass RCAs at output of KX3
  - If problem trades sides in the vehicle, then the KX3 is defective
  - If problem stays on the same side, proceed on
- -Swap left and right High Pass RCAs at the amplifier input
  - If problem trades sides in vehicle, then the RCA cable between the KX3 and the amplifier is defective
  - If problem stays on the same side, proceed on
- -Swap left and right speaker connections at output of high pass amplifier
  - If problem trades sides in the vehicle, then the amplifier is defective
  - If the problem stays on the same side, then the speaker or speaker wiring is defective

Green power indicator LED not on, no sound:
- -Check the CONSTANT and REMOTE (Switched) wiring connections
- -Check the GROUND wiring for good connections.

ELECTRONICS LIMITED WARRANTY

Kicker warrants this product to be free from defects in material and workmanship under normal use for a period of **THREE (3) MONTHS** from date of original purchase. When purchased from and installed by an Authorized KICKER Dealer it is warranted for **TWO (2) YEARS** from date of original purchase, or **ONE (1) YEAR** from date of original purchase if purchased from but not installed by an Authorized KICKER Dealer. If the product is labeled "B Stock" and purchased from an Authorized KICKER Dealer, it is warranted for ONE (1) YEAR from date of purchase, regardless of place of installation. Should service be necessary under this warranty for any reason due to manufacturing defect or malfunction during the warranty period, Kicker will replace or repair (at its discretion) the defective merchandise with equivalent merchandise at no charge. Warranty replacements on "B-Stock" merchandise may have cosmetic scratches and blemishes. Discontinued products may be replaced with more current equivalent products.

This warranty is valid only for the **original purchaser** and is not extended to owners of the product subsequent to the original purchaser. Any applicable implied warranties are limited in duration to a period of the express warranty as provided herein beginning with the date of the original purchase at retail, and no warranties, whether express or implied, shall apply to this product thereafter. Some states do not allow limitations on implied warranties, therefore these exclusions may not apply to you.

This warranty gives you specific legal rights; however you may have other rights that vary from state to state.

WHAT TO DO IF YOU NEED WARRANTY OR SERVICE

Defective merchandise must be returned to your local Authorized Stillwater Designs (Kicker) Dealer for warranty. Assistance in locating an Authorized Dealer can be obtained by writing or calling Stillwater Designs direct. You can confirm that a dealer is authorized by asking to see a current authorized dealer window decal.

If it becomes necessary for you to return defective merchandise, call the Kicker Customer Service Department at (405)624-8510 for a Return Authorization (RMA) number. Package all defective items in the original container or in a package that will prevent shipping damage, and return to

Stillwater Designs, 5021 North Perkins Road, Stillwater, OK 74075

The RMA number must be clearly marked on the outside of the package. Return only defective components. Return of entire cabinets, system packs, pairs, etc. increases your return freight charges. Non-defective items received will be returned freight collect.

Include a dated **proof-of-purchase** stating the Customer name, Dealer name, product purchased and date of purchase. Warranty expiration on items without proof-of-purchase will be determined from type of sale and the manufacturing date code. Freight must be prepaid; items received freight collect will be refused.

Failure to follow these steps may void your warranty. Any questions can be directed to the Kicker Customer Service Department at (405)624-8510.

WHAT IS NOT COVERED?

This warranty is valid only if the product is used for the purpose for which it was designed.
It does not cover:

- Damage due to improper installation
- Subsequent damage to other components
- Damage caused by exposure to moisture, excessive heat, chemical cleaners, and/or UV radiation
- Damage through negligence, misuse, accident or abuse. Repeated returns for the same damage may be considered abuse.
- Any cost or expense related to the removal or reinstallation of product
- Speakers damaged due to amplifier clipping or distortion
- Items previously repaired or modified by any unauthorized repair facility
- Return shipping on non-defective items
- Products with tampered or missing barcode labels
- Products returned without a Return Authorization (RMA) number
- Freight Damage
- The cost of shipping product to Kicker
- Service performed by anyone other than Kicker
- Speaker with any foreign caulk used for gasket material

HOW LONG WILL IT TAKE?

Kicker strives to maintain a goal of 24-hour service for all returns. Delays may be incurred life lack of replacement inventory or parts is encountered.

INTERNATIONAL WARRANTY

Contact your International Kicker dealer or distributor concerning specific procedures for your country's warranty policies.

P.O. Box 459 • Stillwater, Oklahoma 74076 • U.S.A. • 405 624-8510

STILLWATER Designs®

WARNING:

KICKER drivers are capable of producing sound levels that can permanently damage your hearing! Turning up a system to a level that has audible distortion is more damaging to your ears than listening to an undistorted system at the same volume level. The threshold of pain is always an indicator that the sound level is too loud and may permanently damage your hearing. Please use common sense when controlling volume!

August 2002

KICKER
Livin' Loud